

ROOF SOLUTION SPECIFICATION

JAYDEX DOUBLE SHEET MEMBRANE UNDER A ROOF GARDEN ON A CONCRETE ROOF

INTRODUCTION

This specification includes the preparation and application of the **Jaydex Novar WS** (Root resistant) and **Jaydex Novater** double sheet system (ISO9001) to a concrete roof. The membrane system is composed of 4mm (root resistant) membrane torch applied over another torch on membrane. Both membranes possess strong polyester reinforcement with a nominal thickness of 7mm. This membrane system is then overlaid with a proprietary drainage medium followed by a sandy / loam soil medium to provide a planted out earth finish to a roof area.

Jaydex only supply Atatic Polypropylene membranes, with strong polyester reinforcement. In some instances to provide extra heat retention to a building Interior, thermal insulation panels are introduced between the waterproofing membrane system and the overlay of drainage and soil mediums.

BENEFITS OF A ROOF GARDEN

A Roof Garden is a roof that is wholly or partially covered with soil planted out with vegetation that has been applied over a composite drainage waterproofing membrane system. A Roof Garden provides environmental benefits by way of:

- Reduces external noise to the building interior
- Increases thermal insulation to the building interior
- Reduces consumption of electrical / gas / coal related energy requirements for the building
- Reduces storm water runoff from roof catchment areas of the building
- Helps to purify the immediate atmosphere by converting carbon dioxide to oxygen adjacent to the building
- Creates an aesthetic outlook and / or recreation space to a roof area of a building

SUBSTRATE PREPARATION

Concrete shall be correctly formed to falls and adequately cured, all ridges protrusions stone flush and all depressions gauge patched with modified sand cement. Concrete to be finished to NZS3114:1980 U2. Only wood or bull float manually to create an even surface finish (no power floats are to be utilised). Fillets 20mm x 20mm minimum shall be installed at all vertical and horizontal junctions. Falls to be as per current E2 / AS1 requirements.

APPLICATION OF MEMBRANE SYSTEM

Primer

One coat of **Jaydex Bitumen Primer** is applied at a spreading rate of approx. 8 sqm / litre by brush or roller over total roof area and allowed to dry.

Membrane to Roofs

All internal and external corners and vertical to horizontal transitions shall have plain membrane gusset patches and strips applied before the main membrane application is applied over the total roof gutter area.

Torch down basesheet **Jaydex Novater** polyester reinforced membrane over the total primed areas. Torch seal all end and side joints to ensure correct closure. The top sheet of **Jaydex Novar WS** is then torched over the base sheet and offset (i.e. base and topsheet laps to not coincide). All joints are torch sealed separately to ensure correct closure. All the membrane turn ups must be of sufficient height to coincide with the designed finished level of the Roof Garden.

Membrane to Gutters

Where internal gutters form part of the roof area. **Jaydex Novar-WS** is torch applied as the cap sheet over the underlying plain base sheet, prior to laying the main roof membrane system.

APPLICATION OF DRAINAGE SYSTEM

Cellular Overlay

A proprietary 15mm minimum thick drainage cell overlay made up of polypropylene bi planer cellular panels (with solid open chess board patterned faces) securely joined together are laid directly over the already laid membrane system. This cellular blanket provides a 50% void to 50% solid ratio and allows superior sub-surface drainage flows to connecting gutters and outlets.

Lay the cells as a uniform continuous blanket right over all the membrane areas, neatly cut and trim at margins.

Cut and trim the cell blanket to clear all drainage / outlets. The cells can be cut and bent to meet in all inside and / or outside corners. Cut these cell panels with a fine tooth electric saw, pruning shears, or tin snips.

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Filter Fabric

A proprietary water permeable geotextile filter fabric is laid right over the already installed drainage cell blanket with 200mm minimum overlaps between sheets in such a way as to minimise joint lines. Secure all the lap lines with an appropriate tape.

The geotextile filter fabric shall be turned up against / around all parapets, curbs, vents, pipes, skylights and retainer boxes to a minimum of 75mm.

The Physical Properties of the filter fabric shall be a 160N non-woven polypropylene geotextile filter fabric with 100% water filter integrity with a percentage Elongation at fracture – less than 20%. The filter fabric must be ultraviolet light and mildew stabilised.

Retainers for Drainage Outlets / Overflows

Proprietary drainage boxes with lids are to be installed around and over all drainage outlets and overflows. These can be composed of aluminium, stainless steel or plastic. The perforations shall be 5mm minimum diameter to 10mm maximum diameter. Slotted perforations are also acceptable to the above at 5mm x 10mm dimensions per perforation.

Drainage Outlet / Overflow Units

Jaydex outlets of various configurations are available to drain water from **Jaydex** membrane roof, deck, and gutter areas. Each **Jaydex** Outlet reliably interfaces with all **Jaydex** Membrane systems.

Retainers for Garden Edging

These are proprietary modular lengths with slotted perforations (10mm x 5mm) to separate the roof garden assemblies from paved walkways with drainage metal underlayment and / or any exposed internal gutters. These retainers can be composed of plastic, aluminium or stainless steel.

EARTH GARDEN OVERLAY

Responsibility for the design and application of the roof garden over the drainage medium is the sole responsibility of the Landscape Designer – Landscape sub-contractor.

As a general guide the following should apply:

Sand Pre-filler

Where the roof garden is of the deep category (see 3 below) a 50mm thick (minimum) layer of coarse washed river sand is recommended to be laid over the filter fabric prior to the overlay of the soil mix.

Plant Soil Mix

Back fill to the required depth using soil least likely to clog the underlying filter layer. Avoid fine silts clays and dusty organic materials.

Green roof gardens can be categorised into three types depending on depth, plant types and subsequent maintenance requirements. These are as follows:

1 Shallow Roof Garden System

Shallow roof garden system (growth media depth 60 to 100mm) is ideally suited for areas that will receive little maintenance. Recommended plants include sedums, herbs and grasses. The saturated Roof garden weight generally falls between 60 kg per sqm to 100kg per sqm.

2 Medium Roof Garden Systems

Medium depth roof garden system (growth media depth of 100mm to 200mm) includes plants such as sedums, herbs, grasses and other vegetation, which can grow in this depth of media. Un-irrigated systems can be provided without difficulty; however, drip, mist or spray irrigation systems may be required to support more diverse plant types. The saturated Roof garden weight generally falls between 100kg per sqm to 200kg per sqm.

3 Deep Roof Garden Systems

Deep roof gardens typically incorporate a planting system requiring greater growth media depth (exceeding 200mm) that requires regular maintenance, such as watering, fertilizing and mowing / weeding. A variety of plants are available including turf grass, annual or perennial flowers, shrubs and even small trees. The anticipated saturated weight of the Roof Garden is generally greater than 240kg per sqm.

MAINTENANCE

Jaydex side and dropper units must be regularly checked with removal of any accumulated rubbish at the outlets. All inlets should have **Jaydex** proprietary grates installed in them.

WARRANTY

When **Jaydex** Licensed Contractors apply this membrane system in accordance with this specification a standard warranty will be issued for up to twenty (20) years.

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